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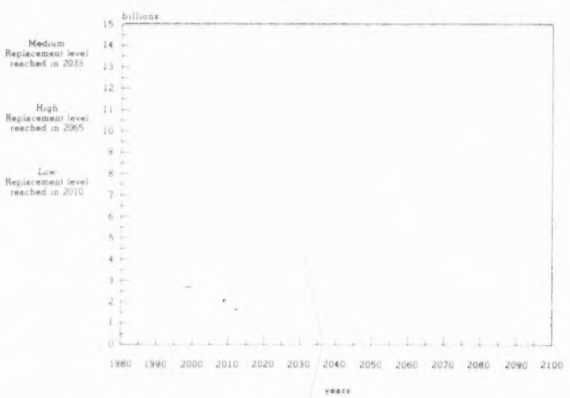
UN WORLD POPULATION PROJECTIONS
High, Medium, and Low Fertility



The medium variant assumes that replacement level fertility (a total fertility rate of 2.1-2.5 children per woman) is reached in 2035. Replacement level fertility under the high fertility assumption is reached in 2065 while the low projection assumes replacement in 2010.

Source: World Population Prospects as Assessed in 1980, UN Population Division.

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Nine Points About Population Growth

When the International Conference on Population meets Aug 6-13 in Mexico City (see article on page 4), one purpose will be to review a decade of progress in stabilizing population growth around the world.

Much ink has been spilled evaluating how this effort is progressing. Any conclusion (optimistic or pessimistic) seems to depend on which facets of the data are highlighted and whether they, like the proverbial half glass of water, are viewed as half-alarming or half-reassuring. However, the following points can be made with some degree of confidence, based on UN estimates and projections (see UN demographic-assessment article on page 5).

1. **The China Caveat.** Including China among the less developed countries (LDCs) can result in a misleading statistical picture of LDC demographic change during the last decade, because China's fertility decline has been so dramatic and its population is so large. But China's demographic experience, due to its stringent "one-child" population policy, is not really representative of other countries. (In recent months, reports out of China suggest the government may be softening its policy somewhat; see POPULATION TODAY, May 1984.)

That caveat out of the way, it can be stated that:

2. **The birth rate of the LDCs excluding China has dropped from about 41 births per 1,000 population in the period 1970-1975 to about 37 per 1,000 in 1980-1985 (UN estimates)—a 10 percent drop.** This rate has been gradually falling since the 1960s. There is evidence, however, that this decline may be leveling out. (For comparison, the U.S. rate is 16, as of 1984.)

3. **The death rate for LDCs excluding China also dropped slightly during the same period, from about 14 deaths per 1,000 population to about 11 per 1,000.** Consequently:

4. **The rate of natural increase (births minus deaths) of the LDCs excluding China has not appreciably diminished during the last decade** (see "Speaking Graphically" on page 5).

5. **Although overall growth in the LDCs has remained steady, different demographic changes—up and down—have occurred in countries and regions** (again, see the UN assessments on page 5).

6. **Family Planning has made headway in some countries.** Contraceptive use in the LDCs was negligible in the 1960s, but results from World Fertility Surveys suggest that in 29 LDC countries surveyed in the late 1970s, about one-third of married, fecund LDC women were using contraception. Emphasis on maternal and child health, child spacing, improved status of women, and economic development are other factors helping to bring down fertility rates.

Because of these factors, LDC couples in recent years have apparently come closer to having the number of children they desire. According to Contraceptive Prevalence Surveys taken in various countries, however, this figure—the number of children desired—is fairly high (e.g., Mexican women were found to want 4.5 children) and well over replacement level.

7. **Total fertility rates (TFR) have come down.** In the late 1960s, in the LDCs excluding China, this fundamental rate probably averaged nearly 6 lifetime children per woman. UN estimates now place it around

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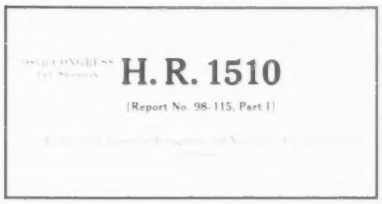
Landmark Immigration Bill Clears House by 5 Votes

On June 20, the House of Representatives passed by a 216-211 vote the Mazzoli U.S. immigration bill designed to control the flow of illegal immigrants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[Report No. 98-115, Part I]

and deal humanely with those already living in this country. The Democratic leadership brought the bill, sponsored by Rep. Romano Mazzoli (D-Ky.), to the floor, overriding the objections of many Hispanic groups who would have preferred to postpone the bill's consideration indefinitely.

The close vote came after seven days of debate and consideration of more than 60 amendments, including many drawn from the "Hispanic alternative" bill introduced by Rep. Edward Roybal (D-Calif.).

The Mazzoli bill is the House version of the Simpson-Mazzoli immigration reform bill; the Senate version, sponsored by Sen. Alan K. Simpson (R-Wyo.), has passed the Senate in each of the past two years.

The bills' two main provisions include penalties for employers who hire undocumented workers and amnesty for many of the millions of undocumented workers and their families now in this country. During the debate the House added a provision to increase the number of foreign workers allowed into the U.S. temporarily to harvest crops. These and a provision which calls for a study of a worker ID system represented the areas of greatest controversy during the House debate.

The only point which all sides seemed to agree on was that the number of persons living in the U.S. illegally is unknown. Throughout the first week of floor debate the number of illegal immigrants living in the U.S. was put as low as 2 million and as high as 12 million. Because of this uncertainty, the cost of enforcing the changes, processing amnesty claims, and providing federal benefits to the new permanent residents is also unknown. However, the Congressional Budget Office estimated that Simpson-Mazzoli could cost more than $8 billion over a five-year period. The Office of Management and Budget estimates $13.3 billion over a four-year period.

The House agreed that fines should be imposed on employers who knowingly hire undocumented workers, but rejected jail sentences prescribed in the Senate version of the bill. The employer sanctions were approved despite strong opposition from businesses who rely on the cheap labor of undocumented workers and Hispanic groups fearing the penalties will kindle job discrimination against all Hispanics.

The purpose of employer sanctions is to remove the economic incentive to migrate. The House, however, added a loophole for agribusiness, an industry heavily dependent on the cheap labor of immigrant workers. The number of temporary "guest workers" allowed into the U.S. for up to 11 months a year to perform seasonal agricultural work was increased from the present 20,000 to more than 500,000. This amendment to the House bill was added despite heavy lobbying by labor unions, who feared jobs would be taken from U.S. citizens. Others anticipate guest workers outstaying their visas to become illegal residents and employees.

Both the House and Senate bills grant legal status to millions of illegal immigrants who have lived in the U.S. for some time. The Senate cutoff date is Jan. 1, 1980; the House cutoff is Jan. 1, 1982. The House bill also requires those seeking permanent resident status to be employed, studying English and civics, and free of a criminal record.

The Senate version of the bill proposes a national worker's ID card system to provide a secure system of legal worker identification. A similar provision was struck from the House bill after impassioned debate sparked by civil libertarians who feared the advent of a national ID. The validity of job applicants' Social Security numbers will instead be checked through a federal 800 phone number.

The Senate bill sets an annual immigration ceiling of 425,000 which includes immediate relatives of U.S. citizens and special cases, but excludes refugees and asylum recipients. The House version would retain the existing ceiling of 270,000, plus refugees, those receiving asylum, immediate relatives of U.S. citizens and special cases.

Members of Congress from the Southwestern border states of California, Texas, Arizona, and New Mexico overwhelmingly opposed the bill, 64 to 16. In the northern states of New Jersey, New York, and Illinois, which have large immigrant populations, the vote was split with 34 in favor and 35 opposed. In Florida, members of Congress overwhelmingly supported the bill, 17 to 2. Observers believe that the opposition in some states reflected the election-year strength of organized labor and Hispanic groups.

The guest worker increase, the ID card system, and the cost of the different amnesty provisions are expected to be the major points of contention when members of the House and Senate meet in a conference committee this summer to iron out the differences between the bills. □

White House Considers New Population Policy

The power of free enterprise, rather than family planning programs, is the fundamental answer to population growth problems, according to an internal draft of a White House policy paper written in late May.

Written by the White House policy development office, the paper was evidently prepared at the request of former Sen. James L. Buckley, who is being considered to head the U.S. delegation to the International Conference on Population, in Mexico City Aug. 6-13. If the paper becomes policy, it would be presented to the conference.

The paper acknowledges the "ultimate need" to achieve population equilibrium. And it notes that the Reagan Administration has continued the U.S.'s longstanding support of family

Continued on next page

FROM THE EDITOR'S DESK

One feature of POPULATION TODAY that appears from time to time is an "Opinion" column—one will appear next month. We hope that readers have found, and will find, this column a forum of stimulating and varying views from the population field (whose views and opinions are their own and don't necessarily reflect PRB's).

When this column originated, we had no idea what kind of submissions we'd get (perhaps on the order of "Let's overhaul the Standard Deviation now!"); surprisingly, submissions have turned out to be mainly concerned with American political questions. OK, if you want to be like that...but if there's anyone out there hopping mad about the Standard Deviation, we'd like to hear from you.

—Art Haupt

Continued from preceding page

planning programs in less developed countries (LDCs). But it sees "localized crises of population growth" as, generally speaking, symptoms of LDC-government-caused economic ills, not demographic ills.

Echoing the development side of the development-vs.-family-planning argument that was rife in the early 1970s, the paper argues that when free economic progress is permitted, then living standards will rise and fertility rates ultimately fall.

The draft announces that the U.S. will "no longer contribute directly or indirectly to family planning programs funded by governments or private organizations that advocate abortion as an instrument of population control." In the opinion of many population watchers, this statement, above and beyond its literal wording, was included to send a message that aid to the UN Fund for Population Activities and such private groups as the International Planned Parenthood Federation may be halted.

A week after being written, the paper had been leaked all over Washington and caused alarm in the population community as to how things would go at the Mexico City conference. At the 1974 World Population Conference in Bucharest, some LDCs were contending that "development is the best contraceptive," while many more developed countries argued in favor of family planning assistance. The development-vs.-contraception argument ceased to be a burning issue a long time ago, superceded by a pluralistic approach that includes everything from contraceptives to development to child health. Whether the U.S. can resurrect that debate in Mexico City is problematic. □

Countdown to Mexico City

The U.S. delegation issue needs to be settled soon, because the International Conference on Population (ICP) is nearly here—considered the most important meeting on population since Bucharest. The UN Fund for Population Activities' Executive Director, Rafael M. Salas, heads the meeting. Some 150 countries are expected at the Aug. 6-13 Mexico City conference site, including China, the USSR (still trying for a disarmament plank), and the East European bloc. This is basically a conference of governments, so observers and private citizens generally will be kept at a distance.

Rafael M. Salas is Secretary-General of the ICP

However, also in Mexico City, Aug. 2-14, the Washington-based Population Institute will be holding a Strategic Planning Seminar on population issues, to brief Population Action Council professionals and donors, and work toward a World Population Day in late 1984. Elsewhere in the city, the Worldwide Pro-Life Pro-Family Conference will take place Aug. 12-15, sponsored by P.L.A.N. (Protect Life in All Nations), with India's Mother Teresa as main speaker.

POPULATION TODAY will give extended, first-hand coverage of the ICP in its October issue. □

SURVEY REPORT

Tunisia WFS

Tunisia, the smallest North African country in size, has recently published the results of its part of the World Fertility Survey (WFS) taken in 1978. About half of this Missouri-sized country consists of arid and semiarid desert, with well-irrigated fertile areas in the north.

The country, which has a population of about 7 million, must import large quantities of food each year and also suffers from widespread unemployment. In 1964, the government was among the earliest to announce a policy to reduce the rate of population growth and Tunisia now has one of the lowest birth rates on the African continent (33 births per 1,000 population) although it is still moderately high.

Part of the reason for the birth rate decline has been a rising age at marriage; the legal minimum was fixed at 17 years for women and 20 for men by a 1964 law. The Tunisia WFS indicates that, of women 20-24 in 1978, 56 percent had not yet married, a large increase from the 27 percent of 1966. The mean age at first marriage for females was 24 in 1978, very high by LDC standards.

It may be that the fertility-lowering impetus from rising age at marriage has been spent (this measure cannot rise indefinitely): Tunisia's total fertility rate (TFR), the average number of children per woman, dropped from 7.1 children in 1966 to 5.7 in 1976, but the decrease has tapered off somewhat since. The TFR appears to have dropped to 5.2 as of 1981.

When asked how many children they would like to have, the women surveyed gave 4.2 children, on average, as their "ideal" number. This number is, of course, considerably above that needed to ultimately stop population growth (about 2.1-2.5 children per woman).

Contraceptive use in Tunisia is quite high by developing country standards; much of this is due to the efficient network of government-sponsored clinics.

Continued on next page

Latest UN Assessments Project Population to Come

The UN's Population Division will soon publish its 1982 assessments of the world's population, projected to 2025. (The medium variant is considered the most likely scenario, but all three projections—high, medium, and low—assume a continuing fertility decline, and are considered plausible; see table.) In the medium variant, the earth's population is projected to rise from the current 4.7 to 6.1 billion by 2000, and to 8.2 billion by 2025. While these world totals scarcely differ from the previous 1980 UN assessments, a closer look reveals a rise in the projections for Africa, offset by a concurrent decline in the Latin American figures. The estimated annual African growth rate has risen steadily from about 2.7 to 3.0 percent between 1970-1975 and 1980-1985, and all three projections for Africa have been revised upward.

Conversely, projections for Latin America reflect growth rate declines which occurred at a faster rate than had been anticipated in the 1980 assessment. Thus, Latin America's population in 2025 is projected to be about 80 million fewer than projected in 1980. However, the medium variant assumes a growth rate of 1.2 percent in 2025, implying decades of continuing growth beyond that time.

The 1982 revisions in China's high and low variants reflect increasing uncertainty about the continuation of China's rapid fertility decline. While the low projection for China has been revised downward by 50 million, the high projection was increased by 46 million, for a projected range of 1.3 to 1.6 billion in 2025. According to the low variant, the growth rate by 2025 would fall from by about 1 percent to 0.19 percent, compared with 0.72 percent in the high-fertility scenario.

India, the world's second most populous nation with 746 million as of 1984, is projected to grow faster between 1980 and 2000 than had been assessed in 1980, but slower for the subsequent 25 years. While the population of 1.19 billion in 2025 was revised downward by only 4 percent, this flicker represents 45 million fewer people, equivalent to a population the size of Egypt's. □

UN Population Projections: Assumptions and Results

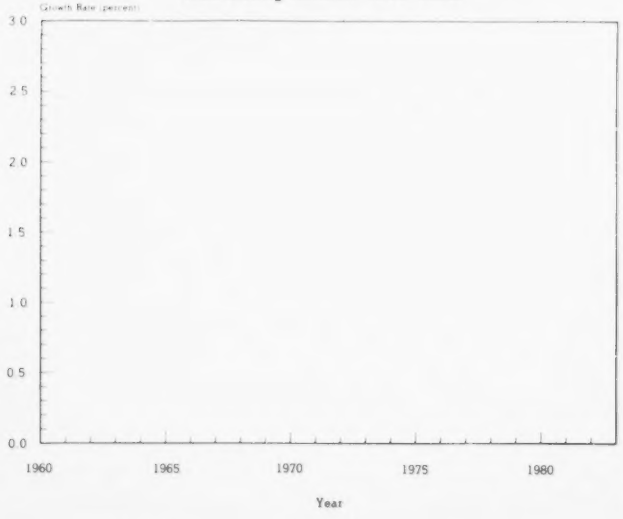
	Assumptions: Level of demographic component (world avg.)			Results: Population, in billions			
	CBR	CDR	GR	World	Africa	Latin America	China
Current est.[a]	27.3	10.6	1.67	4.84	0.55	0.41	1.06
	Assumptions for 2020-2025			Projection for 2025			
Variant							
High	20.9	7.7	1.33	9.18	1.88	0.90	1.61
Medium	17.6	8.4	0.93	8.18	1.64	0.79	1.46
Low	15.0	9.1	0.59	7.28	1.37	0.69	1.34

Source: Demographic Indicators of Countries: Estimates and Projections as Assessed in 1982. New York: United Nations, forthcoming.
Note: CBR = crude birth rate; CDR = crude death rate; GR = growth rate.
[a]Current rates are for 1980-1984; population totals are for 1985.

SPEAKING GRAPHICALLY

POPULATION GROWTH RATES FOR LDC'S

Excluding China: 1960-1983



We frequently read that population growth rates in developing countries are "falling." There has been some moderate decline in the *birth rates* of some developing countries, a large decline in the case of China. Removing China from the picture gives a different impression, as the graph shows. The decline in the birth rate in developing countries has been generally matched by increasing life expectancy and a resulting decline in the death rate. Thus, the population growth rate was a little over 2.4 percent annually in 1962 and, at present, remains unchanged among developing countries (excluding China) as a whole.

Source: U.S. Bureau of the Census, based on data prepared for *World Population, 1983.*

A Clarification

A typographical error in a recent wire service article indicated that PRB had projected that the U.S. Hispanic population would increase from the present 16 million to 47 million "by 1990."

47 million in 1990 is incorrect—as a moment's thought will confirm. PRB last year actually made two projections of the Hispanic population *in 2020.* The high projection assumed legal plus illegal immigration *from all sources* continuing at one million a year and came up with 47 million Hispanics in 2020. The low projection assumed total immigration at 500,000 a year—a possible total if the Simpson-Mazzoli bill becomes law and is forcefully implemented (see article on page 3)—and came up with 32 million Hispanics in 2020. That's 2020, not 1990.

PRB has received many phone calls concerning this erroneous "1990" projection and has sent clarifying letters to newspapers running the article in an attempt to set the record straight. □

Tunisia

Continued from previous page

About 44 percent of the women exposed to pregnancy were practicing an efficient form of family planning with the pill or sterilization accounting for most of that number (22 and 20 percent, respectively).

Nonetheless, traditions which still favor 3 to 5 children and some possible loss of momentum from a rising age at marriage may cause future fertility declines to be slower than in the recent past. Tunisia does present an interesting case of a country maintaining a strong government program to reduce population growth as an overall part of the country's development efforts. □

DEMOGRAPHER'S

Custom-Tailoring Census Data

by Anthony Agresta and Carl Haub

While demographic data from censuses and surveys have long been the primary sources of a country's knowledge of its population, only since the advent of computers have large bodies of such data been successfully "mined" by businesses and general researchers. Even so, use of the data often required a good working knowledge of census geography—for what areas the numbers are available and which not. Census Bureau Public Use tapes are usually divided into defined places, such as states or metropolitan areas, and tapes are available for certain "noncensus" areas such as ZIP codes. But many applications call for a "design-your-own" area report.

There are perhaps tens of thousands of "areas" used by businesses, such as sales territories, which bear no relation to typical census geography. Heretofore, trying to tabulate demographic data for such nonstandard places was usually a frustrating task, to say the least. Here is where the demographic data sets produced for marketing ride to the rescue. Today, computer systems exist which allow the user to produce demographic reports for virtually any area one can think of.

One such system is *American Profile*, put together by Donnelley Marketing Information Services, Inc. PRB has been granted access to *American Profile* to explore potential uses of tailor-made demographic areas.

This system and others like it allow the *user* to define the area for a demographic report. The system will produce reports for areas of unlimited variety: circles, driving routes, oddly-shaped polygons, etc. Legislated boundaries such as towns and states can be ignored, if desired. Instead, such areas might describe the demographics along a given sales route, or within a distribution area or school district. Such areas are rarely defined in terms of neat census categories.

To see how such a system operates in the real world, let's try an example: Suppose that we are developers interested in building a medium-size shopping mall in Anywhere, U.S.A. "Whispering Valley Mall" is to be "anchored" by a J.C. Penney and a K-Mart, and negotiations are underway with major toy store and children's clothing chains. Therefore, we're looking for an area with many young families. We also know that a mall of this size receives 90 percent of its business from people who live within 20 minutes driving time.

We can't, of course, pick a perfect spot free of disadvantages, but three areas of sufficient acreage and agreeable price are located, each with its own good and bad features. **Site A** is a prosperous distant suburb with large open spaces and a recently completed interstate; local knowledge tells us that this area is a candidate for growth and that a number of downtown corporations are considering relocation there.

Site B is closer to town and is located in a neighboring county with a large blue collar population. But how large? Large enough to offset Site A's future potential? Site B is heavily built-up with little room for expansion, but its real estate prices and taxes are favorable when compared with Site A.

Finally, **Site C** is located in an old area of downtown Anytown. This area is a special city project of the mayor's office, which offers very generous financial advantages to developers as part of a revitalization campaign. The present lack of attractive downtown shopping areas is almost certain to guarantee success of our mall, the mayor assures us, and his arguments do seem sound.

What to do?

Printed census reports would give us general indications of family types, income levels, and population sizes we can expect around each site; but this isn't sufficient for our purposes.

Not only can *American Profile* and similar systems generate census data and projections for any shape area one can think of, they can draw areas defined by numerous parameters. In our case, all one need do is identify the latitude and the longitude of proposed Mall sites, give the orientation of main arterial roads which will feed the shopping center, and indicate the local speed limits and the maximum driving time (say 20 minutes). This type of information is readily available on census or other maps. Based on these criteria, the system will then set up the potential market around each site, sum the population, and report on their demographic and socioeconomic characteristics.

Donnelley's data base consists of 1980 Census data down to the census-block level that has been updated to the present by use of Census Bureau estimates, as well as by such laborious methods as keeping track of telephone book entries from year to year. Each census block is geocoded by its "population center." In addition, a companion system, *Market Potential*, can produce a simultaneous report showing the level of demand for various types of stores in the same area.

The accompanying table gives the results for the three possible site locations discussed above, data we never could have obtained without ready access to a flexible database such as *American Profile*.

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Anthony Agresta is a staff demographer at PRB. Carl Haub is Director of PRB's Demographic Analysis and Public Information.

In this case, our decision would be based upon any number of factors. While Site A appears to be growing rapidly and clearly has higher income, Site B has the largest population and appears to have some future growth potential. It will be a long time before A can approach B in size. Site C has little to offer over Site B and its population is about 30 percent less. Hence, we opt for B as the site for Whispering Valley Mall.

The uses of such a system, while first intended for business, are limited only by the imagination. Local officials can use it for fire station locations. Transportation planners can reevaluate public transit routes. Government planners might use it to study populations affected by noise patterns near airports or vulnerable to floods.

While the potential of such systems has only partially been tapped, it is exciting to see the increasing accessibility of census data. Demographic data have entered the open market, where, more and more, they are being *used*. □

Selected Characteristics of the Population Within 20 Minutes Driving Time of Three Potential Locations for "Whispering Valley Mall"

	Site		
Characteristic	A (Newer, distant suburb)	B (Older, close-in suburb)	C (Urban neighborhood)
Population			
1970	235,039	1,485,994	1,009,724
1983	300,076	1,372,058	946,872
1988	319,681	1,380,879	944,659
Households (1983)			
Number	106,770	520,200	401,705
Avg. size	2.78	2.55	2.29
Income	$36,082	$23,160	$25,202
Median age, 1983	32.1	31.5	33.0
% Married-couple family, 1980	85.3	68.3	72.8
% Single-family house, 1980	76.7	55.6	52.4
Median home value, 1980	$101,694	$69,603	$89,778

Source. American Profile, Donnelley Marketing Information Services.

Geographers Meet At Wingspread

The Association of American Geographers and the Johnson Foundation with assistance from the Exxon Education Foundation, sponsored a conference of geography teachers June 4-6 in Racine, Wis., which explored ways in which geography can foster increased international understanding.

Part of the discussions focused on the inclusion of population and demography in geography classrooms. PRB demographer Carl Haub, a conference presenter, provided a demographic perspective and suggested a number of issues which teachers may want to include in their courses.

The conference, held in the beautiful Wingspread Conference Center, the last of Frank Lloyd Wright's "prairie houses," concentrated on methods of bringing a global perspective to bear on geography studies, a subject with a clear relationship to population, in order to more fully understand an increasingly interdependent world. Dr. Michael Libbee of Central Michigan University was the conference organizer. □

And 1 Makes 89

Inadvertently omitted from the listing of 88 "U.S. Graduate Programs in Demography" appearing in PRB's June *Bulletin,* "The Business of Demography," was the major program of Pennsylvania State University (University Park, Pa. 16802).

Coordinated by the 12-year-old Population Issues Research Center, currently directed by Gordon De Jong, Penn. State's Population Studies Center Program offers an interdisciplinary approach to population as "a major area of concentration" to PhD candidates registered in a variety of departments. This includes several courses focused on the real world of "applied demography," such as introduction to geographic data systems. □

Nine Points

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4.8 children per woman. (China's current TFR is estimated at 2.3 by the UN, 2.6 in PRB's *World Population Data Sheet*—both very low for an LDC. By contrast, the U.S. rate is now 1.8. The TFR necessary for population replacement is in the 2.1-2.5 range.)

8. **In summary: from the estimates given above, it's evident that in the LDCs excluding China, the TFR has probably fallen a significant amount, the crude birth rate has come down a little, and the growth rate has barely wavered.**

The growth rate has been slow to fall because of population momentum—the tendency for a population to continue increasing for decades after a sharp fertility drop. This dynamic should come as no surprise; there are so many LDC couples now in the childbearing ages, that even if fertility per couple drops sharply, the total annual births far outstrip annual deaths. In addition, half the 3.6 billion people living in LDCs are under 20 years of age, assuring massive numbers of new births in years ahead.

Even the Chinese one-child-per-couple program is unlikely to prevent China from adding another half-billion over the next four decades—due to population momentum.

9. **The "population explosion" continues on schedule until the end of the century and beyond.** Seemingly every time the LDC birth rate is estimated to have dropped a notch, someone concludes that the "population explosion" is "over," contrary to past pessimistic projections. Victory has been declared several times in the last decade.

In fact, such declines were already foreseen in the demographers' projections. (Again, see the UN assessment article on page 5.) Interestingly, through the varying fertility changes of the last two decades, the UN's medium variant projections of world population have consistently pointed toward the same population level for the year 2000: a little over 6 billion.

In the 21st century, the UN variants begin diverging substantially (see graph on the cover of this issue). A century from now, humanity could number 8 billion or 14 billion. But bane or boom, an Earth with a significantly greater population is the inevitable result of the population dynamics of the past two decades. □

Robey Leaving 'Demographics'

Bryant Robey, Editor of *American Demographics* magazine since its initial January 1979 issue, takes up a new appointment in July as Director of Public Affairs with Hawaii's East-West Center. Succeeding Robey as Editor is former *American Demographics* Research Director Cheryl Russell, Cornell-educated demographer and author of PRB's just-published *Population Bulletin*, "The Business of Demographics."

Considered one of the most readable of current writers on demographic trends, Robey tells *PT* he hopes to keep his hand in with freelance writing in the field, combined with his broader public affairs activities in the population area for the East-West Center. His book, *The American People: Demographic Trends Shaping America*, will be published next winter by E.P. Dutton. □

NEW FROM PRB

Fertility in Tunisia: Traditional and Modern Contrasts, by Roderic Beaujot and Mongi B'Chir. This 61-page paper presents findings from a unique 1983 survey which explored why Tunisia's fertility decline has now slowed, like many in less developed countries, after a much-touted rapid decline in the ten years following the 1966 start of its family planning program—the fifth in the developing world. This is the original English version of a paper to be published in Arabic in PRB's Middle East Series. Available for $10.00 from Population Reference Bureau, PO Box 35012, Washington, D.C. 20013.

LETTERS TO THE EDITOR

To the Editor:

The chart of the 1982 China Census (*Population Today*, March 1984) is a rare jewel for my collection of one-year pyramids. They are so scarce, and say so much; I wish all pyramids were done that way. I've never understood the false economy of having pyramids in five-year age-group blocks. Thanks.

Sincerely,
Frances Weismiller
Santa Barbara, Calif.

One-year pyramids are most informative, but unfortunately age heaping, i.e., the grouping of ages at convenient digits such as 0 and 5, often means only five-year pyramids can be drawn.
—Ed.

To the Editor:

Your graph of Chinese population by single years is the best that anyone has published in recent years. Congratulations.

. . . Do the sex ratios shown in the *Beijing Review* give support or rebuttal to the existence of female infanticide? For example, the sex ratio (male to female) for the pages 0-4 shows a range of 106.3 at age 4 to 107.83 at age 1. Is that significant? That is the approximate period of the "one-family-one-child" campaign.

Sincerely,
Haldore Hanson
Director (emeritus)
International Maize and Wheat Improvement Center
Mexico City

These sex ratios in and of themselves probably don't give much support to female infanticide. Ratios above 100 are, of course, caused by more male than female births in all countries (typically, 105:100). In neighboring Hong Kong, the reported sex ratios at birth in 1978 was 106.6. Ratios above 105 are often seen in censuses due to underreporting of female infants. —Ed.

WORLD FOOD NEWS

The food situation in Africa is likely to get worse before it gets better. In a recent address to the Committee on Food Aid Policies and Programmes of the UN/FAO, FAO Director Edouard Saouma reported that the food needs of many African cities would be even more difficult to handle in the years ahead and that "urban food security" was going to pose virtually insoluble problems for some countries if they were left unaided.

He said the current food crisis in Africa resulted from a combination of short-term setbacks, caused mainly by drought, and from structural deficits resulting from unfavorable longer-term trends.

Saouma cited the fact that urban growth in Africa—with some cities doubling in size every 10 years or so—reflected mainly the very high rate of growth of the population as a whole. He said infant and child mortality were still distressingly high, but were continuing to fall. With little sign of fertility starting to drop, it was possible that population growth would accelerate still further. If this happened, he added, the rate of urbanization could also become faster.

FAO photo by Y. Muller

A peasant farmer stands in a drought-stricken millet field in Ghana.

Even countries that succeeded in revitalizing their domestic food production were unlikely to be able to cope with the resulting needs of their cities, according to Saouma. In fact, he said, weaknesses in infrastructure, marketing, and processing would limit the extent to which demand could be met from the rural hinterland. Countries with satisfactory exports of minerals or petroleum should be able to finance the necessary food imports, but the majority of sub-Saharan nations—exporting mainly agricultural commodities into sluggish world markets—"are likely to face virtually insoluble problems if they are left unaided to find the food for the cities."

The problem is a transitional one, Saouma emphasized, since most African nations have the agricultural potential to meet their requirements over the longer term, but needs are increasing too fast for the farm sector to keep up. "An extremely difficult period may be expected," he added, "until population food production, and other economic and social factors find a new balance." □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

Analyzing Minority Data

The Population Reference Bureau Inc., and Development Associates of Arlington, Va., have been awarded a contract from the Minority Business Development Agency (MBDA), a part of the U.S. Dept. of Commerce, to provide a demographic profile of minority business people. Using data from the public use samples of the 1980 Census the study will calculate the proportions in each major U.S. ethnic group who are entrepreneurs. The study will also try to distinguish the socioeconomic and demographic characteristics of minority and nonminority entrepreneurs and how these characteristics are differently distributed across ethnic groups.

The goal of the study is to provide the MBDA with a better description of the current configuration of the minority business community and to help future development efforts. □

Population Update

Estimated United States Population:

As of April 1, 1984	236,109,000
As of April 1, 1983	233,981,000

The above estimates include armed forces overseas and are from U.S. Bureau of Census, *Current Population Reports*, Series P-25, forthcoming.

Estimated World Population:

As of July 1984	4,762,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: February 1984

	12 months ending with February					
	Number		Rate			
Item	1984	1983	1984	1983	1982	1981
Live births	3,640,000	3,691,000	15.5	15.9	15.9	16.0
Deaths	2,014,000	1,997,000	8.6	8.6	8.5	8.8
Natural increase	1,626,000	1,694,000	6.9	7.3	7.4	7.2
Marriages	2,467,000	2,496,000	10.5	10.8	10.5	10.6
Divorces	1,175,000	1,188,000	5.0	5.1	5.3	5.2
Infant deaths	40,000	41,400	10.9	11.2	11.6	12.3
Population base (in millions)	...	...	234.2	231.9	229.8	227.6

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census.

Source. Monthly Vital Statistics Report (Vol. 33, No. 2) from the National Center for Health Statistics.

TAKE A NUMBER . . .

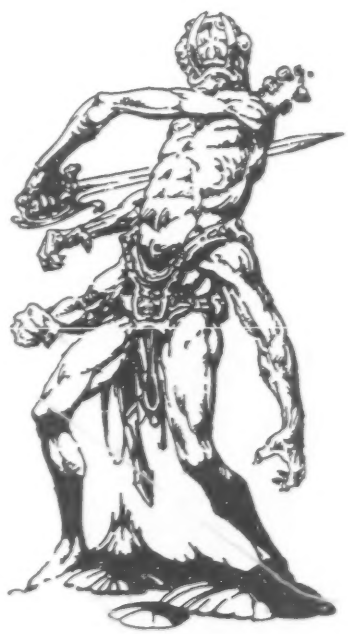
Native-born Hispanics: While the debate over the Simpson-Mazzoli bill (see page 3) has put Hispanic immigration in the limelight, we should also not forget the large number of native-born Hispanics. More than 2 out of 3 Hispanics counted in the 1980 U.S. Census were native born. This varied from a high of 94 percent of all Hispanics in New Mexico to a low of 39 percent in Florida.

An Upside-down Look at Rates: The U.S. infant mortality rate of 11 infant deaths per 1,000 births in 1981 is certainly higher than Sweden's 7, but what if we measured it the other way? The U.S.'s infant *survival* rate would be 989 per 1,000 population and Sweden's 993, a far less impressive difference. Similarly, the birth rate of U.S. teenagers is reported to be an "epidemic" and the highest of any developed country (it isn't). The U.S. rate of 53 births per 1,000 teenagers is higher than Norway's 24, but again what if we measured it differently—947 of every 1,000 American teenagers did *not* have a birth in 1981, compared to 976 in Norway? This is not to say that we should not be concerned with either infant mortaltiy or teenage pregnancy, but at times it seems that our perception of things is determined by how we measure them.

How Many Illegals in the 1980 Census?: The U.S. Census Bureau, by comparing census data to immigration data on legal immigrants has come up with an estimate of the number of undocumented aliens counted in 1980. The Bureau estimates that about 2 million were counted in the census. Mexicans accounted for 45 percent, 23 percent were from other Latin American countries, 12 percent each from Europe and Asia, and 7 percent from other countries.

Traffic Deaths in the Americas: The Pan American Health Organization's *Epidemiological Bulletin* reports that traffic deaths are no longer a major problem just in developed countries. While the U.S. does have one of the Western Hemisphere's highest rates, a number of other countries are even higher despite lower ratios of automobiles to people. Mexico and Venezuela had rates of 27 and 37 deaths per 100,000 population in 1980, compared to the U.S.'s 22. Death rates per 10,000 vehicles were all higher than in the U.S., ranging from 54 in Guatemala to 9 in Argentina (the U.S. rate is 3).

addenda . . .



Drawing by Neal MacDonald, from *A Guide to Barsoom* by John Flint Roy; courtesy of Ballantine Books.

A green Martian in battle.

Edgar Rice Burroughs, Demographer: "The community of . . . green Martians with whom my lot was cast . . . was composed of some 30,000 souls . . . With almost supernatural foresight they regulate the birth rate to merely offset the loss by death. Each adult Martian female brings forth about 13 eggs each year [which] are hidden in . . . some subterranean vault where the temperature is too low for incubation. Every year these eggs are carefully examined by a council of twenty chieftains, and all but about one hundred of the most perfect are destroyed out of each yearly supply. At the end of five years about 500 almost perfect eggs have been chosen from the thousands brought forth. These are then placed in the almost airtight incubators to be hatched by the sun's rays after a period of another five years . . ."

"The average life expectancy of a Martian after the age of maturity [about 40 years] is about 300 years, but would be nearer the one-thousand mark were it not for the various means leading to violent death . . . Only about one Martian in a thousand dies of sickness or disease, and possibly about 20 take the voluntary pilgrimage [down the River Iss at age 1,000, leaving Martian society for the Hereafter]. The other 979 die violent deaths in duels, in hunting, in aviation, and in war; but perhaps by far the greatest death loss comes during the age of childhood, when vast numbers of the little Martians fall victims to the great white apes of Mars . . ."

—from *A Princess of Mars* (1912) by Edgar Rice Burroughs

Containing perhaps the most detailed demographic descriptions to be found in fiction, Burroughs' Mars sagas still remain a bit ambiguous. (Are 500 Martians hatched every five years, with 500 Martian deaths during the same time? Is the Martian life expectancy 300 years at birth, or at maturity?) At any rate, Burroughs manages to finesse any potenual imbalance in his balancing equation by what might be called the "great white ape effect," and the "council of twenty chieftains" helps avoid any sticky questions about Martian fertility rates or age structure.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

BEYOND SIXTY-FIVE: The Dilemma of Old Age in America's Past, by Carole Haber. Cambridge, U.K.: Cambridge University Press, 1983. 129 pages. $19.95. ISBN 0-521-25096-X.

This book explores changes in the roles and perceptions of the elderly in American society before the 20th century. The author focuses on efforts to treat the elderly as dependent and separate them from society. She concludes that 18th- and 19th-century attitudes toward old age continue to influence U.S. society's approach to aging today.

Records of charity workers, writings of doctors, and reports from institutions for the aged are examined in detail to reveal the origins of this country's first old-age homes, pension plans, and geriatric medicine.

While the book provides a detailed look at the evolution of present attitudes, it lacks a comparison with approaches other societies have taken or any suggestion of ways to improve current practices.

—Paola Scommegna

STATISTICAL YEARBOOK OF CHINA, 1983, Issued by the State Statistical Bureau, Peoples Republic of China. Hong Kong: Economic Information Agency. 596 pages. ISBN 962-7063-11-8. (Order from Economic Information & Agency, 342 Hennesy Road, Hong Kong.)

The English version of China's *Statistical Yearbook* focuses on the PRC's economic and social development. Population and the labor force, agriculture and industry, foreign trade and tourism, as well as an informative appendix entitled "Major Economic Indicators of China in Comparison with Foreign Countries" are some of the subject matter covered in specific chapters.

The previous yearbook has been improved upon. The 1983 version covers the principal economic and social indicators in complete time series analysis, and nationwide data have been added for finance, banking, and national income.

Although figures in this edition exclude Taiwan, the yearbook is a comprehensive, informative, and up-to-date volume serving to augment our data on the country with over one-fifth the world's population.

—Anthony Agresta

FROM TIME IMMEMORIAL: The Origins of the Arab-Jewish Conflict Over Palestine, by Joan Peters. New York: Harper & Row, 1984. 601 pages. $24.95. ISBN 0-06-015265-6.

This book by an American journalist who claims she set out "solely to investigate the plight of Arab refugees" attempts to prove in 600 pages with 1,792 footnotes that Palestinian Arab refugees who fled the newly formed Israel in 1948 have no more "immemorial" rights to that land than Jews. Peters' main, original contribution to this ever-volatile debate is ingenious demographic analysis (checked by famed demographer Philip Hauser) suggesting that many of those refugees had in fact migrated into what is now Israel during the 1923-1948 British Mandate of Palestine, drawn by better economic conditions in areas of Jewish concentration. This immigration was unrecorded by the British, who attributed high pre-1948 Arab "natural increase" in Palestine to falling mortality due to improved health services. Despite her polemical style, Peters' presentation of her massive research is essential reading for all concerned with the Arab-Israel problem.

—Jean van der Tak

IMMIGRATION, REFUGEES AND AMERICAN BUSINESS, by Michael S. Teitelbaum. Washington, D.C.: National Chamber Foundation, 1984. 76 pages. $8.50 (plus $1.00 postage).

The flow of legal and illegal immigrants into the U.S. evokes strong reactions from many segments of the population, with organized labor and business often at opposite ends of the argument. Although American business has special concerns regarding immigration and refugee policies, very little legitimate analysis of these concerns now exists. In this short work, prepared for an affiliate of the U.S. Chamber of Commerce, the author reviews the complicated causes and effects of international migration to the U.S. with special emphasis on the business community. Specifically, he discusses the impact of immigration on wages, productivity, future labor force needs, and the viability of those businesses, such as some in the garment industry, which can only compete with foreign competitors by paying the subminimum wages migrants will accept.

Teitelbaum also summarizes past and probable future immigration trends and includes an analysis of the proposed legislative solutions to the problem. Even the U.S. Attorney General agrees that current immigration and refugee policy is "out of control," evidenced by the inability to cope with the 1980 Mariel boatlift from Cuba, to slow illegal immigration, or to process the huge volume of political asylum claims filed each year. The author concludes by listing four alternatives for business people who want effective controls on illegal immigration. The most controversial of these are sanctions against employers who knowingly hire illegals, a key provision of the immigration reform bill now passed by Congress.

—Mary Kent

PUBLICATIONS RECEIVED

BHUTAN: DEVELOPMENT IN A HIMALAYAN KINGDOM, a World Bank Country Study. Washington, D.C.: The World Bank, 1984. 177 pages.

CHINESE KINGSHIP, by Paul Chao, London: Kegan Paul International, 1983. 247 pages. $30.00.

DETERMINANTS OF FERTILITY IN DEVELOPING COUNTRIES (Vol. 2), edited R.A. Bulatao and R.D. Lee, New York: Academic Press, 1983. 846 pages. $45.00

DIRECTORY OF OFFICIALS AND ORGANIZATIONS IN CHINA, by Malcolm Lamb, Armonk, N.Y.: M.E. Sharpe, 1984. 717 pages. $60.00.

ENQUETE TUNISIENNE SUR LA FECONDITE, 1978 (2 Vol.) Office National du Planning Familial et de la Population [of Tunisia], 1982.

HEALTH UNITED STATES AND PREVENTION PROFILE, by National Center for Health Statistics, Hyattsville, MD: U.S. Dept. of HHS, 1983. 267 pages.

HUNGARY: ECONOMIC DEVELOPMENTS AND REFORMS, a World Bank Country Study, Washington. DC: The World Bank, 1984. 232 pages.

INTERNATIONAL BREAST-FEEDING COMPENDIUM, 3rd Ed. (vol. 1&2) edited by J.D. Gussar, M.A., Woo-Lun & S.M. Smith, Columbus, Ohio: Ross Laboratories, 1984.

INTRODUCTORY STATISTICS FOR BUSINESS AND ECONOMICS by T.H. Wonnacott & R.J. Wonnacott, New York: Wiley, 1984. 746 pages. $28.95

NATIONAL FERTILITY SURVEY OF ECUADOR, 1979 (2 Vols., in Spanish). Quito: The National Institute of Census and Statistics, 1984. 626 Pages. $17.40.

POPULATION, ENVIRONMENT AND RESOURCES AND THIRD WORLD DEVELOPMENT, edited by Pradip R. Ghosh, Westport, Conn.: Greenwood Press, 1984. 634 pages. $55.00.

SPOTLIGHT

LIBYA

Population (1984): 3.7 million
Persons per sq. mile: 5
Births per 1,000 pop. (1983): 46
Deaths per 1,000 pop. (1983): 13
Infant mortality rate (est. 1983): 90 deaths per 1,000 live births
Annual rate of population growth (1983): 4.7 percent, including migration
Area: 685,524 square miles (about the area of Alaska plus Oregon)
GNP per capita (1982): US $8,510
Major Export (1982): crude petroleum – US $3.0 billion
Major imports (1980): Food, machinery, manufactured goods, chemicals – US $13.3 billion

The Socialist People's Libyan Arab Jamahiriya lies along the Mediterranean Coast, sandwiched between Egypt on the east and Tunisia and Algeria on the west. With no permanent rivers and minimal rainfall, only 10 percent of the land is arable; the rest of the country is desert or semidesert. Although the government has been trying to expand its farm output, 85 percent of the food must be imported.

At 3.7 million, Libya's population is small but growing so rapidly that it should double by 2000. Historically, the bulk of the population has always been concentrated along the coast, with scattered nomadic bands living in the arid South. But rural-to-urban migration has exacerbated this unbalanced distribution. Currently, 90 percent of the population live in less than 25 percent of the land area; and 40 percent live in one of the two major cities, Tripoli and Benghazi.

Since oil was discovered in the 1950s, Libya's economy has been almost totally dependent upon petroleum exports. Prices have fallen sharply since 1980 because of the world oil glut, but oil still provides a rich income. The government has used the substantial oil revenues for ambitious construction projects, expansion of educational and health facilities, and creation of a modern defense establishment to foster economic development and political strength. The country has enjoyed truly remarkable improvements in living standards and school enrollment over the past three decades. Literacy has increased from 23 percent for men and 2 percent for women to 73 and 40 percent respectively, since the 1950s.

Prior to 1950, Libya's population grew at moderate rates, less than 2 percent annually. But since then, declining mortality, high birth rates, and increasing immigration have caused growth rates to soar above 4 percent. Estimated at just over 1 million in 1954, the population has more than tripled in 30 years.

Consistent with Arab tradition, Libyans favor large families. Women marry young, around age 17, and bear an average of 7 children. Also, Moslem culture frowns on women working outside the home; only about 5 percent do so. The government encourages the high birth rates to increase the small native population. Importation of modern contraceptives is illegal, and although maternal and child health projects receive government support, family planning does not. The increases in education and labor force participation of women may lead to lower fertility in the future.

The average Libyan was only expected to live to age 43 during the 1950s, and about 190 of every 1,000 babies died before their first birthday. In the 1980s, life expectancy is up to about 65, and infant mortality down to 90 per 1,000 births. The mortality decline can be directly attributed to vaccination campaigns carried out during the late 1950s and the expansion of health care financed by petroleum exports.

The impressive decline in mortality coupled with the continuation of high birth rates have produced an annual rate of natural increase of 3.3 percent, but the most dramatic changes in the population of Libya are from international migration. The small, unskilled, and almost exclusively male native labor force is insufficient to develop the rich oil fields. Since 1965, hundreds of thousands of foreign laborers have been attracted to Libya by the promise of high wages and generous social services. The size of the immigration flow has fluctuated with economic and particularly political events, but the net effect has been to create a large foreign-born contingent, primarily of working-age men. Foreigners account for about 15 percent of the total population and 31 percent of males aged 15 to 64. In the early 1970s, about 90 percent of the aliens were Arabs, mainly Egyptians, but current government policies favor the contracting of labor packages from Asian countries and in 1982, about 20 percent of the aliens were from non-Arab Asian countries.

Libya faces several difficulties in the near future. First, rapid growth has produced a very young population, 47 percent under age 15. This increases the proportion of consumers to producers in the society at exactly the time when the government wants to limit its reliance upon foreign labor. Also, the communities of aliens, viewed suspiciously by the native Libyans, appear to be permanent additions to the society. The rapid urbanization is destroying the precious agricultural land, perpetuating the dependence upon imported food. The government hopes to alleviate these problems through continued economic growth and policies aimed at keeping fertility high, encouraging women to work, and slowing down both rural to urban and international migration. □